**Main Method():**

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\*/

import java.util.\*;

import java.lang.\*;

import java.util.Arrays;

public class composition{

public static void main(String[] args){

Employee2 e1 = new Employee2();

My\_Date d1 = new My\_Date (4,5,1992);

My\_Date d2 = new My\_Date (4,5,2005);

job j1 = new job (1, 60000, "Computer Operator");

Employee2 e2 = new Employee2("saneeha", "aamir", d1, d2, j1);

e2.display();

System.out.println("\n" + e2.checkSalary());

// Runner

address a1 = new address (5, 12, "Multan");

person p1 = new person("Sam", "Edwards", a1);

book b1 = new book(p1, "OOP", "Oxford");

b1.display();

System.out.println("\n" + b1.checkStreet());

// Runner

pizza p4 = new pizza("medium", 5, 6, 7);

pizza p5 = new pizza("small", 2, 2, 3);

pizza p6 = new pizza("large", 5, 2, 0);

System.out.println(p4.calcCost());

System.out.println(p4.getDescription());

pizzaOrder pz = new pizzaOrder(p4, p5, p6);

pz.display();

}

}

**Class Employee:**

class Employee2 {

private String firstName;

private String lastName;

private My\_Date birthDate;

private My\_Date hireDate;

private job person\_Job;

Employee2()

{

birthDate = new My\_Date();

hireDate = new My\_Date();

person\_Job = new job();

}

Employee2(String f, String l, My\_Date d1 , My\_Date d2, job j1)

{

firstName = f;

lastName = l;

birthDate = d1;

hireDate = d2;

person\_Job = j1;

}

// setters

public void setBirthDate(My\_Date d1)

{

birthDate =d1;

}

public void setHireDate(My\_Date d1)

{

hireDate =d1;

}

public void setJob(job j1)

{

person\_Job = j1;

}

// getters

public My\_Date getBirthDate()

{

return birthDate;

}

public My\_Date getHireDate()

{

return hireDate;

}

public job getJob()

{

return person\_Job;

}

public void display()

{

System.out.println(firstName);

System.out.println(lastName);

System.out.println(birthDate.getDay() + " " + birthDate.getMonth() + " "+ birthDate.getYear());

System.out.println(hireDate.getDay() + " " + hireDate.getMonth() + " "+ hireDate.getYear());

System.out.println(person\_Job.getId() + " " + person\_Job.getSalary() + " " + person\_Job.getDesignation());

}

public void display2()

{

System.out.println(firstName);

System.out.println(lastName);

birthDate.display();

hireDate.display();

}

public boolean checkExperience(My\_Date current\_year){

boolean check = true;

if(current\_year.getYear() - hireDate.getYear() < 5){

check = false;

}

return check;

}

public boolean checkSalary(){

boolean check = true;

if(person\_Job.getSalary() < 50000){

check = false;

}

return check;

}

}

**Class Date:**

class My\_Date {

private int day;

private int month;

private int year;

public My\_Date(int day, int month, int year) {

this.day = day;

this.month = month;

this.year = year;

}

public My\_Date() {

}

public int getDay() {

return day;

}

public void setDay(int day) {

this.day = day;

}

public int getMonth() {

return month;

}

public void setMonth(int month) {

this.month = month;

}

public int getYear() {

return year;

}

public void setYear(int year) {

this.year = year;

}

public void display() {

System.out.println(day + " " + month + " " + year);

}

}

**Class Job:**

class job{

private int id;

private int salary;

private String designation;

// default constructor

public job(){

}

// argumented constructor

public job(int id\_prime, int salary\_prime, String designation\_prime){

// check for ID

if(id\_prime > 0){

this.id = id\_prime;

}

else{

System.out.println("Enter the right ID ");

}

// check for Salary

if(salary\_prime > 0){

this.salary = salary\_prime;

}

else{

System.out.println("Enter the right salary ");

}

// Designation

this.designation = designation\_prime;

}

// setters

public void setId(int id\_prime){

// check for ID

if(id\_prime > 0){

this.id = id\_prime;

}

else{

System.out.println("Enter the right ID ");

}

}

public void setSalary(int salary\_prime){

// check for Salary

if(salary\_prime > 0){

this.salary = salary\_prime;

}

else{

System.out.println("Enter the right salary ");

}

}

public void setDesignation(String designation\_prime){

// Designation

this.designation = designation\_prime;

}

// getters

public int getId(){

return id;

}

public int getSalary(){

return salary;

}

public String getDesignation(){

return designation;

}

}

**Class Address:**

class address{

private int home;

private int street;

private String city;

// default constructor

public address(){

}

// argumented constructor

public address(int home\_prime, int street\_prime, String city\_prime){

// check for Home

if(home\_prime > 0){

this.home = home\_prime;

}

else{

System.out.println("Enter the house number ");

}

// check for Street

if(street\_prime > 0){

this.street = street\_prime;

}

else{

System.out.println("Enter the right street number ");

}

// City

this.city = city\_prime;

}

// setters

public void setHome(int home\_prime){

// check for Home

if(home\_prime > 0){

this.home = home\_prime;

}

else{

System.out.println("Enter the house number ");

}

}

public void setStreet(int street\_prime){

// check for Street

if(street\_prime > 0){

this.street = street\_prime;

}

else{

System.out.println("Enter the right street number ");

}

}

public void setCity(String city\_prime){

// City

this.city = city\_prime;

}

// getters

public int getHome(){

return home;

}

public int getStreet(){

return street;

}

public String getCity(){

return city;

}

// display Methods

public void display(){

System.out.println("House Number is: " + home);

System.out.println("Street Number is: " + street);

System.out.println("City is: " + city);

}

}

**Class Person:**

class person{

private String firstName;

private String lastName;

private address a1;

// default constructor

public person(){

this.a1 = new address();

}

// argumented constructor

public person(String firstName\_prime, String lastName\_prime, address a1\_prime){

this.firstName = firstName\_prime;

this.lastName = lastName\_prime;

this.a1 = a1\_prime;

}

// setters

public void setFirstName(String firstName\_prime){

this.firstName = firstName\_prime;

}

public void setLastName(String lastName\_prime){

this.lastName = lastName\_prime;

}

public void setA1(address a1\_prime){

this.a1 = a1\_prime;

}

// getters

public String getFirstName(){

return firstName;

}

public String getLastName(){

return lastName;

}

public address getA1(){

return a1;

}

// display Methods

public void display()

{

System.out.println(firstName);

System.out.println(lastName);

System.out.println(a1.getHome() + " " + a1.getStreet() + " " + a1.getCity());

}

public void display2()

{

System.out.println(firstName);

System.out.println(lastName);

a1.display();

}

public boolean checkLocation(){

boolean check = true;

if(!a1.getCity().equalsIgnoreCase("Islamabad")){

check = false;

}

return check;

}

}

**Class Book:**

class book{

private person author;

private String bookName;

private String publisher;

// default constructor

public book(){

this.author = new person();

}

// argumented constructor

public book(person author\_prime, String bookName\_prime, String publisher\_prime){

this.author = author\_prime;

this.bookName = bookName\_prime;

this.publisher = publisher\_prime;

}

// setters

public void setAuthor(person author\_prime){

this.author = author\_prime;

}

public void setBookName(String bookName\_prime){

this.bookName = bookName\_prime;

}

public void setPublisher(String publisher\_prime){

this.publisher = publisher\_prime;

}

// getters

public person getAuthor(){

return author;

}

public String getBookName(){

return bookName;

}

public String getPublisher(){

return publisher;

}

// display Methods

public void display()

{

System.out.println(bookName);

System.out.println(publisher);

System.out.println(author.getFirstName() + " " + author.getLastName() + " " + author.getA1().getHome() + " " + author.getA1().getStreet() + " " + author.getA1().getCity());

}

public void display2()

{

System.out.println(bookName);

System.out.println(publisher);

author.display();

}

public boolean checkStreet(){

boolean check = true;

if(author.getA1().getStreet() > 10){

check = false;

}

return check;

}

}

**Class Pizza**

class pizza{

private String size;

private int no\_Of\_cheese\_toppings;

private int no\_Of\_pepperoni\_toppings;

private int no\_Of\_ham\_toppings;

// default constructor

public pizza(){

}

// argumented constructor

public pizza(String size\_prime, int no\_Of\_cheese\_toppings\_prime, int no\_Of\_pepperoni\_toppings\_prime, int no\_Of\_ham\_toppings\_prime){

this.size = size\_prime;

// Check for cheese Topings

if(no\_Of\_cheese\_toppings\_prime >= 0){

this.no\_Of\_cheese\_toppings = no\_Of\_cheese\_toppings\_prime;

}

else{

System.out.println("Enter the positive number");

}

// Check for Pepperoni Topings

if(no\_Of\_pepperoni\_toppings\_prime >= 0){

this.no\_Of\_pepperoni\_toppings = no\_Of\_pepperoni\_toppings\_prime;

}

else{

System.out.println("Enter the positive number");

}

// Check for ham Topings

if(no\_Of\_ham\_toppings\_prime >= 0){

this.no\_Of\_ham\_toppings = no\_Of\_ham\_toppings\_prime;

}

else{

System.out.println("Enter the positive number");

}

}

// setters

public void setSize(String size\_prime){

size = size\_prime;

}

public void SetNo\_Of\_cheese\_toppings(int no\_Of\_cheese\_toppings\_prime){

// Check for cheese Topings

if(no\_Of\_cheese\_toppings\_prime >= 0){

this.no\_Of\_cheese\_toppings = no\_Of\_cheese\_toppings\_prime;

}

else{

System.out.println("Enter the positive number");

}

}

public void SetNo\_Of\_pepperoni\_toppings(int no\_Of\_pepperoni\_toppings\_prime){

// Check for cheese Topings

if(no\_Of\_pepperoni\_toppings\_prime >= 0){

this.no\_Of\_pepperoni\_toppings = no\_Of\_pepperoni\_toppings\_prime;

}

else{

System.out.println("Enter the positive number");

}

}

public void SetNo\_Of\_ham\_toppings(int no\_Of\_ham\_toppings\_prime){

// Check for ham Topings

if(no\_Of\_ham\_toppings\_prime >= 0){

this.no\_Of\_ham\_toppings = no\_Of\_ham\_toppings\_prime;

}

else{

System.out.println("Enter the positive number");

}

}

// getters

public String getSize(){

return size;

}

public int getNo\_Of\_cheese\_toppings(){

return no\_Of\_cheese\_toppings;

}

public int getNo\_Of\_pepperoni\_toppings(){

return no\_Of\_pepperoni\_toppings;

}

public int getNo\_Of\_ham\_toppings(){

return no\_Of\_ham\_toppings;

}

public void display(){

System.out.println("Size is: " + size);

System.out.println("Total Cheese Toppings: " + no\_Of\_cheese\_toppings);

System.out.println("Total Pepperoni Toppings: " + no\_Of\_pepperoni\_toppings);

System.out.println("Total Ham Toppings: " + no\_Of\_ham\_toppings);

}

public double calcCost(){

int totalCost = 0;

// for small size

if(size.equalsIgnoreCase("small")){

totalCost = 10 + (2 \* no\_Of\_cheese\_toppings) + (2 \* no\_Of\_pepperoni\_toppings) + (2 \* no\_Of\_ham\_toppings);

}

// for small size

else if(size.equalsIgnoreCase("medium")){

totalCost = 12 + (2 \* no\_Of\_cheese\_toppings) + (2 \* no\_Of\_pepperoni\_toppings) + (2 \* no\_Of\_ham\_toppings);

}

// for large size

if(size.equalsIgnoreCase("large")){

totalCost = 14 + (2 \* no\_Of\_cheese\_toppings) + (2 \* no\_Of\_pepperoni\_toppings) + (2 \* no\_Of\_ham\_toppings);

}

return totalCost;

}

public String getDescription(){

String q\_cheese = no\_Of\_cheese\_toppings + "";

String q\_pepperoni = no\_Of\_pepperoni\_toppings + "";

String q\_ham = no\_Of\_ham\_toppings + "";

return size + " " + q\_cheese + " " + q\_pepperoni + " " + q\_ham;

}

}

**Class PizzaOrder**

class pizzaOrder{

private pizza pizza\_1;

private pizza pizza\_2;

private pizza pizza\_3;

// default constructor

public pizzaOrder(){

this.pizza\_1 = new pizza();

this.pizza\_2 = new pizza();

this.pizza\_3 = new pizza();

}

public pizzaOrder(pizza pizza\_1\_prime, pizza pizza\_2\_prime, pizza pizza\_3\_prime){

this.pizza\_1 = pizza\_1\_prime;

this.pizza\_2 = pizza\_2\_prime;

this.pizza\_3 = pizza\_3\_prime;

}

// setters

public void setPizza\_1(pizza pizza\_1\_prime){

this.pizza\_1 = pizza\_1\_prime;

}

public void setPizza\_2(pizza pizza\_2\_prime){

this.pizza\_2 = pizza\_2\_prime;

}

public void setPizza\_3(pizza pizza\_3\_prime){

this.pizza\_3 = pizza\_3\_prime;

}

// getters

public pizza getPizza\_1(){

return pizza\_1;

}

public pizza getPizza\_2(){

return pizza\_2;

}

public pizza getPizza\_3(){

return pizza\_3;

}

public void display(){

System.out.println(pizza\_1.getSize() + " " + pizza\_1.getNo\_Of\_cheese\_toppings() + " " + pizza\_1.getNo\_Of\_pepperoni\_toppings() + " " + pizza\_1.getNo\_Of\_ham\_toppings());

System.out.println(pizza\_2.getSize() + " " + pizza\_2.getNo\_Of\_cheese\_toppings() + " " + pizza\_2.getNo\_Of\_pepperoni\_toppings() + " " + pizza\_2.getNo\_Of\_ham\_toppings());

System.out.println(pizza\_3.getSize() + " " + pizza\_3.getNo\_Of\_cheese\_toppings() + " " + pizza\_3.getNo\_Of\_pepperoni\_toppings() + " " + pizza\_3.getNo\_Of\_ham\_toppings());

}

public void display2(){

pizza\_1.display();

pizza\_2.display();

pizza\_3.display();

}

public double calcTotal(){

return pizza\_1.calcCost() + pizza\_2.calcCost() + pizza\_3.calcCost();

}

}